PG Diploma in Embedded Wireless & Mobile Applications

Objective of the Course:

To mould fresh electronics engineers and to retrain working engineers into High Caliber Embedded Wireless Communication System Designers by enhancing their knowledge and skills in various hardware and software design aspects of Embedded Systems, Wireless and Mobile Communications. This course offers a range of topics of immediate relevance to industry and makes the students exactly suitable for industries engaged in Embedded and Wireless System development and applications. This course is also an excellent preparation for those wishing to engage in application research in this rapidly developing area.

Learning Outcomes:

On completion of the Course, the Participants shall get

- Exposure with different Wireless and Mobile Communication Technologies.
- Expertise required in designing and developing different wireless applications using Java and J2ME.
- Familiarization with usage of different Wireless and Mobile communication Modules/ kits such as WiFi (WLAN), GSM/GPRS, Bluetooth, ZigBee, GPS etc.
- Exposure to Embedded & Wireless applications.
- Familiarization with usage of different Wireless Simulators.
- Expertise in various programming languages such as C, C++ and Java.
- Hands on experience in Operating system (Linux) internals

Expected Job Roles:

Design Engineer

Duration of the Course (in hours)	720 hrs /24 Weeks		
Appr. Fees (INR):	Rs. 68,000/- (Service Tax Extra)		
Minimum eligibility criteria and prerequisites if any	 a. M.E./M.Tech or B.E./B.Tech in Electronics/ Electronics & Communication/ Electrical/ Electrical and Electronics/Instrumentation/ Biomedical /Computer Science/Information Technology or MSc in Electronics/ Instrumentation/ Computer Science/Information Technology. b. Candidates who have appeared in the qualifying examination 		

and awaiting results.

Outline of the Course

S. No	Торіс	Minimum No. of Hours
1.	Embedded C and 8 bit Microcontrollers	120 hrs
2.	System Design using ARM Microcontrollers	90 hrs
3.	Fundamentals of Wireless Communication and Simulation using	60 hrs
4.	Embedded Linux	60 hrs
5.	Wireless and Mobile Technologies	120 hrs
6.	Mobile Application Development (Java and J2ME)	150 hrs
7.	Project Work	120 hrs
	Theory/ Lecture Hours:	216 hrs
Practical/ Tutorial Lecture Hours:		504 hrs
	Total Hours:	720 hrs

Books recomme	nded	1. Let us C by Yashwant H	Kanetkar			
for reference and	d	2. Embedded C, Pont, Mi				
reading:		 C Programming language, Kernighan, Brian W, Ritchie, Dennis M 8051 Microcontroller and Embedded Systems – Mazidi, Muhammad Ali, Mazidi, Janice Gillispie 				
		•	mming for Multitasking – Schultz, Thomas W			
		6. ARM System Develope	er's Guide - Designing and Optimizing System			
		Software by: Andrew N Sloss, Dominic Symes, Chris Wright; 2004, Elseiver				
		7. ARM System - On - Ch	ip Architecture, Furber, Steve			
		8. Assembly Language Pr	ogramming: ARM Cortex - M3: Mahout, Vincent			
		 Computer Networks; By: Tanenbaum, Andrew S; Pearson Education Pte. Ltd., Delhi, 4th Edition 				
		10.Data and Computer Communications; By: Stallings, William; Pearson Education Pte. Ltd., Delhi, 6 th Edition				
		11.The Complete Reference C++, Herbert Schildt, TMH				
		12.C++ programming language, Bjarne Stoustrup,Addison-Wesley				
		13.GNU C++ For Linux, Tom Swan , Prentice Hall India				
	14.GNU/LINUX Application Programming, Jones, M Tims					
	15.UNIX Network Programming : Steven, Richard					
	16.Linux: The Complete Reference: Petersen, Richard					
		17.Linux Device Drivers: Rubini, Alessandro, Corbet, Jonathan				
		18.Linux Kernel Development: Love, Robert				
		19. Wireless Communicati	19.Wireless Communications – Principles and Practice; by Theodore S			
		Rappaport, Pearson Education Pte. Ltd., Delhi				
20.Wireless Communication Technology; By: Blake, Roy; Delmar, New Yo						
21. Wireless Communications and Networking; By: Stallings, William; Pearson						
	Education Pte. Ltd., Delhi					
22.Java2:The Complete Reference, Patrick Naughton and Herbert S TMH.						
		23.J2ME James Edward Keogh, Tata McGraw Hill.				
		24.Relevant Data sheets and application notes				
Group Code:	EMBD	Group Name:	Embedded System			
Course Code:	PG02	Course Name:	PG Diploma in Embedded Wireless & Mobile			

Applications